

MISSOURI SURVEYOR

A Quarterly Publication of the
Missouri Society of Professional Surveyors

Jefferson City, Missouri

September 2020



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CALENDAR OF EVENTS

2020

October 22-24, 2020

63rd Annual Meeting and Convention
Oasis Hotel and Convention Center,
Springfield, MO

December 5, 2020

Board Meeting
MSPS Office, Jefferson City, MO

2021

February 24, 2021

Board Meeting
MSPS Office, Jefferson City

April 29, 2021

Board Meeting
Lodge of Four Seasons,
Lake Ozark, MO

April 30-May 1, 2021

43rd Annual Spring Workshop
Lodge of Four Seasons,
Lake Ozark, MO

October 14-16, 2021

64th Annual Meeting and Convention
Tan-Tar-A Resort, Osage Beach, MO

Additional Dates for Spring Workshop

April 27-May 1, 2022

May 3-May 7, 2023

May 1-May 5, 2024

For front and back cover
descriptions, see page 39.

Donald R. Martin, Editor



Notes from the Editor's Desk

Donald R. Martin



Who Built this Country?

As we limp our way into the last quarter of 2020, it is tough to find positive reflections and comments to make about where “we” are in this world. Ours is a world which has been ravaged by a pandemic that came to be accompanied by calls for social justice which have morphed into social upheaval. For all of the talk of “we’re in this together” and “we can do better,” lost is any real sense of “we.” Instead of any figurative coming together, we are experiencing a more literal coming apart. Sadly, with everyone setting off in their own ships, “we” have lost sight of the reality that when it comes down to it, we are all in the same boat.

Among the multitude of micro-issues riding along the waves of shouting, shrieking and shoving the matter of “who built this country?” has arisen. It is an issue. The most poignant moment of this as an *issue* occurred when one city’s law enforcement official (who wasn’t enforcing much law) stood among protestors and damaged property proclaiming “my people built this country!”

I am not denying anyone’s contention of the roles their forebearers may have played in the creation, construction and care of our land. It is a big country and it took a lot of hands to build it. I hope we are not done building it. It seems to me the credit for building this good land is not an exclusive claim. It is inclusive of a broad spectrum of contributors. But if this is one of the places we are *going* during this mess, let’s not forget that *we built this country* – we **surveyors!**

Our impact on the forming and sustaining of this county is so great one could say it is beyond measure...except for us. Because we measured it! The scope of the surveyor’s role in America’s building is so extensive it very well is the single, largest public works project ever undertaken. Among the mighty and vast works which stand out in this world, the Pyramids of ol’ Egypt, the Great Wall of China, the United States Interstate system, there is one which mile-for-mile, year-for-year is more encompassing and impacting than them all. It is our Public Land Survey System, the USPLSS. And before anyone is silly enough to further make exclusive or exclusionary claims regarding who built what, we can proclaim *we did*, we built the PLSS, and...*we built this country* – we **surveyors!**

While our PLSS is grand in scope and impact, our contributions are even more universal. The single greatest manifestation of “life, liberty and the pursuit of happiness” is the American system of land tenure. A system where any citizen may be the master of a domain which is his. His real property. While once wilderness, it became land through the act of surveying. Its very development has depended on surveys. So has subsequent allotment. And all of those parcels are connected to the world by infrastructure that was first...yes, surveyed. Our works are the first act in the delivery of place for those reaping the bounty of their life, liberty and pursuit of happiness. We built that too - we **surveyors!**

With that, I best break-it-down and bunch-it-up so I can start getting ready for the next edition ...I’ll get back with ya’ then... 🇺🇸

Donald

THE MISSOURI SURVEYOR

Published quarterly by the
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	4 issues	1 issue
Full Page	650.00	200.00
Half Page (horizontal or vertical)	400.00	150.00
Quarter Page	250.00	100.00
Professional Card	50.00	N/A

COPY DEADLINE

March Issue — February 1
June Issue — May 1
September Issue — August 1
December Issue — November 1

EDITOR

Donald R. Martin
105 S. Capistrano
Jefferson city, MO 65109
Phone (573) 619-8702
E-mail: editor@missourisurveyor.org

PUBLISHER

Sandra Boeckman
722 E. Capitol Avenue
Jefferson City, MO 65101
(573) 635-9446 FAX (573) 635-7823
E-mail: msps@missourisurveyor.org

The Missouri Surveyor is published quarterly by the Missouri Society of Professional Surveyors, to inform land surveyors and related professions, government officials, educational institutions, contractors, suppliers and associated businesses and industries about land surveying affairs. Articles or opinions appearing in this publication do not necessarily reflect the viewpoints of MSPS but are published as a service to its members, the general public and for the betterment of the surveying profession. No responsibility is assumed for errors, misquotes or deletions as to its contents. Articles may be reprinted with due credit given.

President's Message

Susanne Daniel



As this is my final *President's Message*, I want to thank all who chaired or served on our committees. You are the true advocates for our profession. I also want to thank the members of our board of directors and officers for your guidance and Don, our editor for patience when my letters are late or too long. Most importantly, I want to thank Sandy, our executive director. There have been so many new challenges; who could have anticipated a global pandemic that would shut down our country? Other state chapters

have postponed meetings or switched to online only options but through the hard work of Sandy and the commitment of you, our members, we have endured. Our Spring Workshop "in August" was largely a success, our committees are still focused on the goals of our Society, and we have found ways to continue conducting the business of MSPS without compromising the safety of our members. That isn't to say that we haven't struggled. There were technical issues at the workshop and throughout every board meeting but we have persevered.

As expected, our spring workshop attendance was down but some were able to participate online. The topics were excellent and answered a lot of questions. There were sessions on succession planning, insurance, and first aid as well as our more traditional; notes, measurements, and avoiding mistakes. Thank you, Dr. Paiva and your team for making our workshop virtually accessible for those who were unable to attend in person.

The fall conference and annual meeting will go on as scheduled at the Oasis Hotel and Convention Center in Springfield. The in-person format of our business meeting is mandated in our by-laws. Also, our legislative committee has some important matters to discuss regarding our licensing requirements and a drop in registrations. We will be electing and installing directors and officers as well as welcoming our newly licensed members. We have a great lineup of presenters and topics so I encourage everyone to attend and I invite you to sign up for a committee of your choice. Your involvement is vital to the success of our society.

Thinking back on where we were last fall and remembering the theme "Vision 2020" or the clichéd marketing question, "What will 2020 hold?" Ha! We had no clue. In the spite of mandatory shutdowns for non-essential services, most of us have been fortunate to remain open and are inundated with work. We're overwhelmed and yet when I have asked for help, you, our members have given selflessly of your time and responded with encouragement and wisdom. For this, I want to thank you. It has been an honor and a privilege to serve as your president. May God bless you all! 🇺🇸

Susanne

Pigeons and Wasps in the Ripley County Courthouse

by Dr. Richard Elgin, PLS, PE

In reading decisions of the Missouri Appellate Courts, it is rare that they contain anything but the facts, pleadings, law and the decision. They are practically devoid of humor or anecdotal asides. However, in *Burke v. Colley*, 495 S.W.2d 699 (Mo. Ct. App. 1973) there are a couple of interesting passages and a footnote. The decision relates to the Current River in Ripley County. First it cites a 1919 decision in which the court took “judicial knowledge... that the Current River is a fine fishing stream.” Then points out that “under *stare decisis* we adhere to that pronouncement a half-century later.” Judicial knowledge (or, judicial notice) is information, facts, etc. of which the court is aware and need not be proven. *Stare decisis* means “to stand on decided cases,” that is, it recognized as a precedent and need not be re-proven. Good for the court, the Current River is a fine fishing stream.

The second passage describes the Current River as passing through Ripley County, on its way to Arkansas, and where “on the courthouse lawn in Doniphan proudly proclaims to the world: ‘Ripley County – Where History is Preserved and Nature Stands Revealed.’” Thence the footnote to that statement:

The writer can attest to the validity of this claim having judicially observed pigeons flying through opened windows into the high ceiling courtroom during the course of a trial. Aside from the obvious distract, this caused court personnel, jury and spectators some understandable concern. And “nature” was suddenly revealed on the 35th Judicial Circuit Court Reporter’s stenotype carrying case before the pigeons were ousted by judicial edict – and sheriff’s deputies. On another occasion a wasp caused a sudden recess when it decided to explore the anatomy of the 35th Judicial Circuit Court Reporter via his pants leg.



Burke v. Colley is an important decision to the professional surveyor. Briefly: The court said the “exhibit prepared by surveyor...inadmissible where exhibit was not tied to government marker...” The “government corner” tie is no longer required. Another aspect of the decision concerned meander lines. Said the court: “...the government patent conveyed the title to all of the lands lying between the meander line and the middle thread of the river...” There are only a very few exceptions to this statement. The meander line is practically never a boundary. And, the Current River at the location of the dispute (Section 25, T22N, R2E, Ripley County, just below Doniphan) was held as nonnavigable. 🇺🇸

Dick Elgin is a surveying practitioner, author, researcher and educator. He wrote The U.S. Public Land Survey System for Missouri. This article is a piece from his forthcoming book on Missouri riparian boundaries. Semi-retired, he works for Archer-Elgin Engineering, Surveying and Architecture in Rolla. (Photo of Ripley County Courthouse from Wikipedia.)

Announcements

NGS Approves Missouri Low Distortion Projection!

Missouri Land Survey Program, August 5, 2020

State Land Surveyor Ronnie Heimbaugh has reported to the MSPS Board of Directors that the Land Survey Program (LSP) proposed Low Distortion Projection (LDP) was submitted to the National Geodetic Survey (NGS) this past March. Dr. Michael Dennis of NGS has informed Heimbaugh of the official approval of the proposed LDP!

Undergoing further evaluation of the zones, the NGS is fine-tuning the proposed zone configurations. The next deadline in the process comes at the end of March in 2021. That is when the completed design will be submitted.

In the past few months, LSP has reviewed *Chapter 60* (Missouri Revised Statutes, “County Surveyors and Land Surveys”) and prepared a preliminary draft of the proposed revisions along with a narrative to explain the revisions. The revisions address the *New State Plane Coordinate System*, update language, and address gendered language. Heimbaugh has forwarded a copy of the revision draft to the MSPS Legislative committee for comment.

Public Comment Deadline Extended for U.S. Survey Foot

National Institute of Standards & Technology, July 10, 2020

After reviewing public comments, the National Geodetic Survey and the National Institute of Standards & Technology delayed their intended announcement to deprecate the use of the U.S. survey foot. This was originally scheduled to occur on June 30, 2020. They filed a new Federal Registered Notice extending their timeframe for extension of the review and analysis period to address public comments. The final determination will be published by September 28, 2020.

Delayed Release of the Modernized NSRS

National Geodetic Survey, June 22, 2020

NOAA’s National Geodetic Survey (NGS) is announcing a delay in the release of the modernized National Spatial Reference System (NSRS).

In 2007, NGS began planning for the modernized NSRS, acquiring its first airborne gravimeter, creating and initiating the Gravity for the Redefinition of the American Vertical Datum (GRAV-D) project and by 2008 had codified its modernization plans into a Ten-Year Plan. At that time, the target completion date was 2018. By 2013, that date seemed unlikely, due to both the broadening of the GRAV-D coverage area and the experience of five years of operational planning and execution.

In 2013, NGS revised its 2008 Plan, and targeted 2022 as the date of the release of the modernized NSRS. This date was reinforced with a 2018 Strategic Plan revision. By 2017, confidence in hitting the 2022 target was high enough to reach final agreement with Canada and Mexico on a naming convention for certain components, to include “2022” in their names.

Since 2017, operational, workforce, and other issues have arisen and compounded, causing NGS to recently re-evaluate whether a successful roll-out by 2022 is possible. The most significant impacts have been in workforce hiring and retention, and in meeting GRAV-D data collection milestones, which underpin the NSRS modernization efforts. 🇺🇸

NGS has reported to the Missouri Land Survey Program the previous release date of 2022 for the modernized NSRS is amended with the release now anticipated in 2024 or 2025.

In Committee

What's happening in MSPS Committees

CST Committee – Norm Ellerbrock, Chair

Plans are underway to have the Certified Surveying Technicians examinations available for taking at future MSPS events (the Annual Meeting and the Spring Workshop). The committee chair would serve as the test's proctor.

County Surveyors Committee – Terris Cates, Chair

The committee has reported that the Missouri Association of County Surveyors (MACS) has elected Matt Thomas as President. The other officers are Jerry Wood, Gerard Bader, and Lloyd Todd with Terris Cates becoming the Past-President. In July MACS held a seminar in which they hosted Rep. Don Mayhew (District 121, Missouri House of Representatives) as their speaker.

Legislative Committee – Jim Anderson, Chair

The committee members' discussions have centered on issues associated to education requirements, experience qualifications and testing procedures specified for becoming a licensed surveyor. More broadly, they are looking into the impact these may have on the low numbers of people entering the surveying profession and then taking and passing licensing examinations. The History Committee Chair Joe Clayton has requested the committee also renew last Session's MSPS effort to have the Rolla office building housing the State Land Survey Program named to honor Robert E. Myers, MSPS past-president and Missouri's charter State Land Surveyor.

PAC Committee – Bart Korman, Chair

The committee is looking into legislation authorizing the development of specialty motor vehicle license plates for surveyors.

Scholarship/Trig-Star Committee – Gerald Bader, Chair

The committee presented the MSPS Board of Directors with two nominees for the Non-traditional Scholarship. Both attending State Tech in Linn, they are Hannah Swanson and Justin White. The Board accepted the committee's recommendations and voted to award both a \$500 scholarship.

At the August 5th MSPS *Board of Directors Meeting*, along with the committee reporting (above), the following reports were provided as well:

Land Survey Division of the Board of Registration - Jerrod Hogan, Chair

Dan Govero reported Jerrod Hogan is the new chair of the Land



Survey Division. Govero went on to report that the Division had three hearings at their last meeting, all of which were pertaining to issues of standards compliance. He also noted that few [taking the licensing examinations] passed the most recently administered test. He further announced an appointment will be made soon to fill seat held by Mike Freeman on the Board.

State Land Surveyor Report - Ron Heimbaugh, State Land Surveyor

With a recent retirement (Bruce Wilson), the Land Survey Program (LSP) has a vacant position for Survey Technician. Due to COVID19 impact, the LSP has been directed to operate without filling the vacancy. The current staff is thirteen full-time employees. The LSP staff has been working remotely on a half time basis.

LSP operations for FY20:

- Repository - received 14,389 documents (1,922 corner docs) to be added to the Land Survey Index (LSI) and the Corner Master Index (CMI) databases (an average of 1,199 documents per month.) A total of 29,875 orders was received through online orders (an average of 2,490 orders per month.)
- Field Surveys Section - restored or reestablished 161 PLSS corners.
- Contracting - 21 *County Surveyor Co-op Contracts* and four *Private Surveyor Co-op Contracts*, remonumenting a total 159 corners at a cost of \$52,235.
- LSP On Line - currently in the process of updating their "Help" menu for the LSI & CMI and will be updating some of the downloadable handouts as well as adding a tutorial and an FAQ section.
- Funds - ended FY20 with approximately \$992,924 in the Land Survey Fund and \$548,938 in the Land Survey Revolving Fund. 🇺🇸



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Capital View

A Look at Surveying Legislative Matters

Members of the MSPS Legislative Committee have spent part of their summer considering challenges which may be impacting Missouri's ability to license sufficient numbers of land surveyors to meet our state's needs. Bart Korman of the committee has reported to the MSPS Board of Directors that he and his fellow members have focused their attention on identifying problems within the laws regulating the qualifications and processes required for licensure.

With the aid of MSPS lobbyist Lynn Schlosser, Korman and the committee didn't stop with identifying problems. Making the logical next-step, the group sought to define the manner by which the education and experience difficulties in place may be resolved. Doing so, they documented their findings in the following lists of *problems* and *solutions*:



MSPS Legislative Committee Meeting


Land Surveyor Education Requirements Discussion

Problems

1. Number (too low) of people sitting for the exams/passing exams
2. Current system is not flexible, *i.e.*; sitting for both exams at one time
3. Onerous timeline for the profession before licensure is obtained
4. More *legal aspects* education is needed in applying the law to the profession
5. Required years of experience before licensure may be a deterrent to the profession
6. Relatable experience obtained prior to enrollment into LSIT program is not counted
7. Awareness of the profession
8. Competing professions

Potential Solutions Discussed

Changes to the statute (RSMo 327) could include:

1. Adding flexibility regarding work experience
2. Education 1st before any test
3. Increasing required credit hours in *legal aspects* education
4. Consistent Stair Stepping –more of a “3 check box” system like engineers have and currently there is a gap between steps one and two
5. Lower the LSIT threshold
6. Changing requirements to 6 years, or 7 years, no matter which path is taken (providing a clear path education + experience) 

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Surveying & Surveyors in the News!

Top Workplaces in St. Louis

St. Louis Post-Dispatch (stltoday.com), July 29, 2020



ST. LOUIS POST-DISPATCH

In a review of midwestern businesses in the Missouri and Illinois hinterlands of the St. Louis metropolitan area, the Post-Dispatch identified the top 75 small workplaces, defined as companies with 149 or fewer employees in the region. Making the prestigious list was Horner & Shifrin Inc.

Description: Horner & Shifrin is a multidisciplinary professional services firm based in St. Louis, with offices in O’Fallon and Poplar Bluff, Missouri; and Chicago and O’Fallon, Illinois. We offer engineering services in all phases of a project, including design, feasibility, planning, development and construction administration. In addition to engineering, our in-house capabilities include materials testing, land surveying, GIS mapping and hosting.

Sector: Engineering, design consultant

Headquarters: St. Louis

Year Founded: 1933

Employees: 96

Website: hornershifrin.com

2-Year Degrees that Can Earn You the Most Money

KAKE Wichita, Kansas (kake.com), July 7, 2020



ABC television broadcasting affiliate KAKE in Wichita has posted on their website a feature from Stacker (thestacker.com), the publisher of “digestible stories” derived from “expert analysis”. The article reports the 100 associate’s degrees that lead to the highest earnings. While Physician Assistant studies rank # 1, look who else made the list!

#68. Land surveying

- Mid-career pay: \$70,000

- Early career pay: \$40,300

Land surveying is measuring land in order to define property boundaries so that it can be sold, built on, or used for other purposes. Beyond the considerable paycheck, land surveying jobs provide several benefits, like the ability to work outside, away from the office, in a role that isn’t too labor-intensive. Students can choose to focus their studies in areas like construction surveying, forensic surveying, hydrographic surveying, or environmental surveying.



(continued on page 30)



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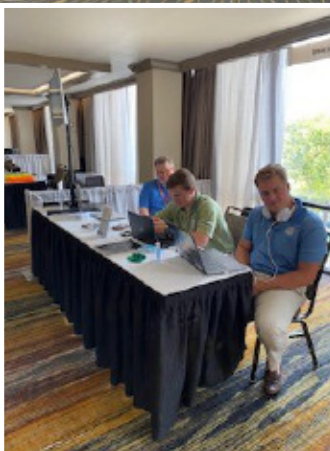
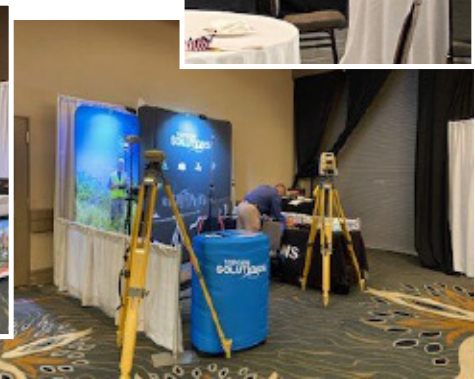
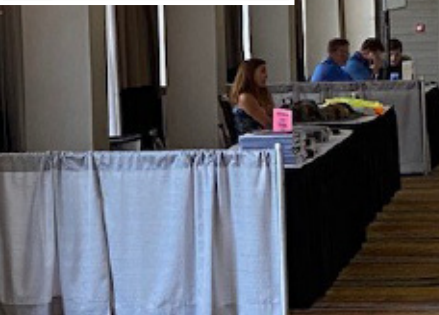
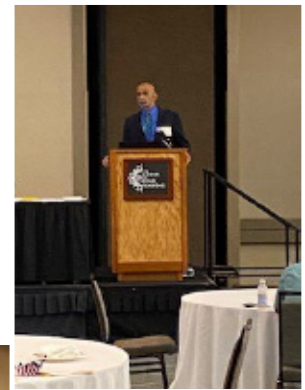
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GeoLearn ~ Graves Insurance Group ~ Laser Specialists
MO Department of Agriculture-Land Survey Program ~ Ozark Laser
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State Technical College of Missouri ~ Surveyors Materials
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SPEAKERS

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Association Membership and the Surveyor

From the National Society of Professional Surveyors

The Merriam-Webster dictionary defines membership as follows:

Membership noun

mem-ber-ship | \mem-bər-ship

plural memberships

Definition of membership

1: the state or status of being a member

2: the body of members // an organization with a large *membership*

Membership is implied to be individuals who have something in common and therefore wish to belong to a group or organization that promotes that commonality. This is not a new concept, as various memberships have existed for centuries. The groups can be formal or informal, business or social, public or private, but the common interest is key to them all. For instance, membership was a status symbol if you and/or your family belonged to a country club, hunting club or equestrian club. Groups have gathered socially in automobile and motorcycle clubs for the past century. Civic clubs, including Kiwanis, Lions Club, and the Jaycees, were created to provide organized assistance to municipalities and neighborhoods. Museums are well known for their membership programs and those donations help keep the institutions thriving. Other membership organizations were established to help people with various causes, including civil liberties, Second Amendment rights, and retiree programs and discounts. All serve a good and dedicated purpose; however, the most important one that will most likely provide the most benefit is the professional membership.

MEMBERSHIP IN PROFESSIONAL ASSOCIATIONS

Membership in a professional society, especially in times like these, is also important on many levels. For the surveying profession, it provides advocacy and representation for not just the licensed practitioner, but anyone who works in surveying. Some of the benefits of being a member of state and national surveying associations include:

REGULATION & ADVOCACY

Part of the association's role for professional oversight is regulatory advocacy. Professional licensing has come under fire in recent years as deregulation groups seek to eliminate licensing they see as a barrier to entry rather than to protect the integrity of the interests. State and national associations are working together to defend our profession against these efforts and maintain the regulatory requirements of the surveyor.

Another area of advocacy is political representation at both the federal and state levels. From UAV uses to fighting back against infringing uses of radio signals used by GNSS satellites, the associations work together to represent the surveying profession's best interest in potentially damaging policies and lack of funding for essential surveying and mapping activities.

PROFESSIONAL STANDARDS

Besides advocating for licensing, the associations provide input and guidance for professional standards for technical documents and services. From working with the title examiners group to establish a national land title survey standard to specific guidelines for deliverables, our association groups work together to raise the standard of the profession. They also advocate for a higher ethical standard for all practitioners in surveying so to be seen in a respectable light.

Various certification programs are available through the national and state associations, including:

- Certified Survey Technician
- Certified Hydrographic Surveyor
- Certified Floodplain Surveyor

These certifications allow Surveyors to promote their skill set further as one who is specifically trained for a particular task.



EDUCATION

The surveying associations provide continuing education (whether statutorily required or not) for all levels and tasks of surveyors, from introductory field and office to advanced technology and legal curriculum. Many also provide material refreshers for those preparing for their licensing exams. Many of these educational opportunities are held during annual conferences and seminars specifically targeted for surveyors, whether members or not.

Labor shortages are happening in most professions and surveying is no different. Our organizations provide educational outreach for future surveyors through various conduits, including elementary and high school programs and college career days through engineering and mapping-related curriculums. We also promote scholarship opportunities for two- and four-year degree college programs through a variety of channels.

TECHNOLOGY

Along with formal surveying education topics and discussions, another substantial portion of an association's conference or seminar is an exhibitor's hall showcasing the latest and greatest in surveying technology. It is also a place for vendors to present new data services to augment existing surveying tasks.

Technology providers often utilize these associations for advertising and marketing so members are exposed to new equipment, software, and processes more directly than simply advertising in trade magazines.

AND MUCH MORE!

Many of these organizations offer member discount programs for insurance, travel, products, and more. They can provide these discounted options simply because of the buying power of more users, so the savings are passed on directly to the Surveyor.

Associations also often offer career centers for connecting people and open positions. Many also offer resume services to help the job seeker capture their best qualities for inclusion on a job application.

THE INTANGIBLES

While the aforementioned are the main examples of the benefits of membership in your state and national surveying association, for many it is simply the opportunity to connect with fellow professionals and technicians. Whether it be for job openings, questions regarding a specific survey or simply engaging another professional in peer review, your membership in these groups helps to pave the way to completing these tasks and more.


TAKING CARE OF TODAY AND PLANNING FOR TOMORROW

Although we are living in unprecedented times, maintaining your memberships, both state and national, may become a question of necessity. For most, prioritizing expenses has become more scrutinized and membership is easily seen as non-essential cost. These memberships are an investment in your profession and career, so consider that return when your next renewal form comes in the mail. The money spent now on professional memberships can go a long way in keeping your profession and career acknowledged as an essential service for years to come. 🇺🇸

Keith M. Brickey, P.L.S. Office: 573 634-3455
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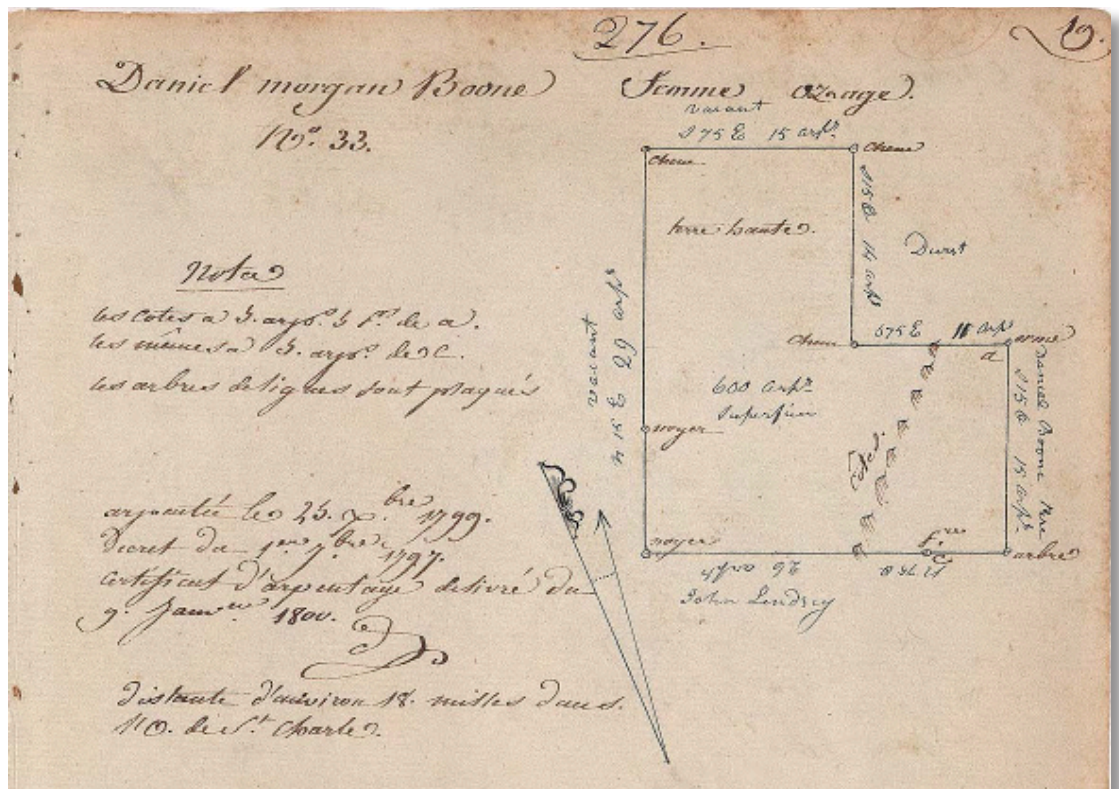
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Daniel Boone's Claim to Land in Upper Louisiana

by Steven E. Weible, PLS, July 2020

By 1798 Daniel Boone was in the latter years of his life. He had pursued some wild adventures, suffered some devastating losses and was perhaps looking for a new start in a new place. At about that same time the Spanish began encouraging Americans with families to come settle in Upper Louisiana. They were offering generous grants of land to those willing to make improvements and cultivate the land (Stoddard, pg 249; ASP:PL, Vol. 6, pg 712). In fact, Spanish Lieutenant Governor Don Zenon Trudeau had in September 1797 conceded a tract of land of 600 arpents (about 510 acres) to one of Daniel Boone's sons, Daniel Morgan Boone. Trudeau extended an invitation to Boone as well to bring his family to Upper Louisiana, promising a grant of land.

On January 24, 1798, Trudeau conceded to Daniel Boone a tract of land of 1000 arpents (about 850 acres) adjoining the tract previously conceded to his son in the district of the Femme Osage on the Missouri River near present day Matson and Defiance in St. Charles County (ASP:PL Vol. 2, pg 396). Daniel Morgan Boone's tract was surveyed on December 25, 1799 and Daniel Boone's tract was surveyed on December 26, 1799. Both were recorded in the Registre d'Arpentage by Antoine Souldard on January 9, 1800. Adjoining tracts had been previously conceded to David Darst Senior for 600 arpents, David Darst Junior for 264 arpents and John Linsay for 500 arpents.

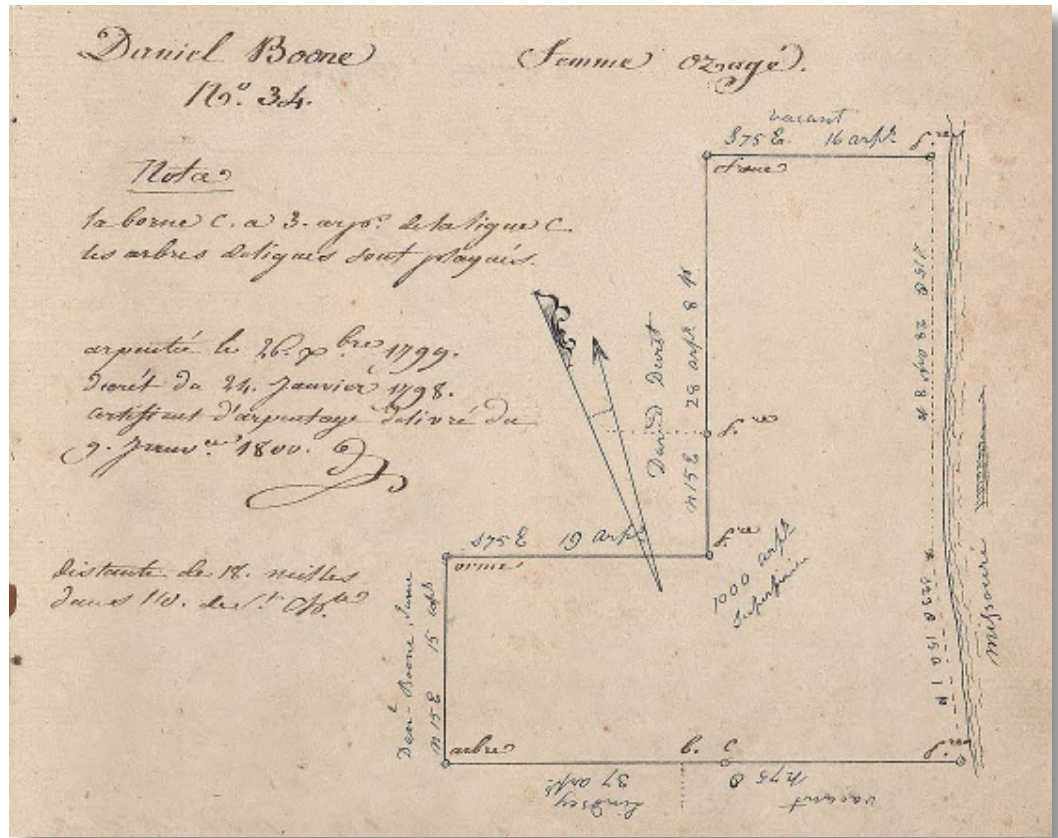


Boundary survey, dated December 25, 1799, of 600 arpents conceded to Daniel Morgan Boone on September 1, 1797.

(Courtesy of the Missouri State Archives, Missouri Digital Heritage)

When Daniel Boone arrived in Upper Louisiana, he and his lady took up residence with Daniel Morgan Boone on the adjoining tract of land. On July 11, 1800, Daniel Boone was commissioned as commandant of the district of Femme Osage by Spanish Lieutenant Governor Don Charles Dehault Delassus, who had succeeded Trudeau in 1799. Since the Spanish regulations required that a settler establish himself within one year, Daniel Boone inquired with Delassus about this necessity. Delassus advised him that, since he was serving as commandant of the district, the requirements did not apply to him. Daniel Boone continued to live with Daniel Morgan Boone until he later moved to the home of a younger son, Nathan Boone (ASP:PL Vol. 2, pg 396).

After the United States had acquired Upper Louisiana in 1803 and taken possession of it in 1804, Daniel Boone filed notice of his claim with the recorder of land titles for the district of Louisiana as directed by the Act of March 2, 1805, chapter 26, *An act for ascertaining and adjusting the titles and claims to land, within the territory of Orleans, and the district of Louisiana* (U.S. Statutes at Large, Vol. 2, pg 324). Evidence and testimony for his claim were presented to the first Board of Commissioners on February 13, 1806. At that time Boone was said to be about seventy (70) years old and his wife about sixty-eight (68) (ASP:PL Vol. 2, pg 396).



Boundary survey, dated December 26, 1799, of 1000 arpents conceded to Daniel Boone on January 24, 1798.

(Courtesy of the Missouri State Archives, Missouri Digital Heritage)

The first Board of Commissioners ultimately failed to finish its business, so Boone's claim was not

decided upon until it was examined by the Board of Revision. On December 1, 1809, John B. C. Lucas, Clement B. Penrose and Recorder of Land Titles, Frederick Bates, rendered the following decision: "It is the opinion of the Board that this claim ought not to be confirmed" (ASP:PL Vol. 2, pg 396).

Daniel Morgan Boone's claim for the 600 arpents conceded to him was approved under commissioners' certificate number 20 on December 13, 1808. David Darst Senior's claim for the 600 arpents conceded to him was approved under commissioners' certificate number 18 on the same date. John Linsay's claim for the 500 arpents conceded to him was approved under commissioners' certificate number 59 on December 22, 1808 (ASP:PL, Vol. 2, pg 563-564). David Darst Junior's claim for the 264 arpents conceded to him, however, was not approved by the Board of Revision. In testimony it was noted that he was crippled, a minor and did not reside on the tract, but with his father, David Darst Senior (ASP:PL, Vol. 2, pg 396).

Daniel Boone was not satisfied with the decision of the Board of Revision, so he appealed directly to the United States Congress with the following petition (ASP:PL Vol. 2, pg 5):

Boone's petition was referred to committee in the U.S. Senate and, subsequently, presented to the full Senate on January 12, 1810 (ASP:PL Vol. 2, pg 5). The committee recognized Daniel Boone's meritorious contributions and the benefit to the United States, thus recommending a bill for his relief. The Senate, however, delayed addressing the petition, since the Board of Revision had not yet submitted its final report and would not do so until January 1812.

On December 10, 1813 the chairman of the committee on public lands in the U.S. House of Representatives requested information about the claim of Daniel Boone from the Commissioner of the General Land Office, Edward Tiffin, who

(continued on next page)

Daniel Boone's Claim to Land in Upper Louisiana *(continued)*

*To the Senate and Representatives of the citizens of the United States in Congress assembled.
The petition of Daniel Boone, at present an inhabitant of the territory of Louisiana, respectfully
showeth:*

That your petitioner has spent a long life in exploring the wilds of North America; and has, by his own personal exertions, been greatly instrumental in opening the road to civilization in the immense territories now attached to the United States, and, in some instances, matured into independent States.

An ardent thirst for discovery, united with a desire to benefit a rising family, has impelled him to encounter the numerous hardships, privations, difficulties, and dangers to which he has unavoidably been exposed. How far his desire for discovery has been extended, and what consequences have resulted from his labors, are, at this time, unnecessary to detail.

But, while your petitioner has thus opened the way to thousands, to countries possessed of every natural advantage, and although he may have gratified to excess his thirst for discovery, he has to lament that he has not derived those personal advantages which his exertions would seem to have merited. He has secured but a scanty portion of that immeasurable territory over which his discoveries have extended, and his family have reason to regret that their interest had not been more the great object of his discoveries.

Your petitioner has nothing to demand from the justice of his country, but he respectfully suggests, that it might be deemed an act of grateful benevolence, if his country, amidst their bounties, would so far gratify his last wish, as to grant him some reasonable portion of land within the territory of Louisiana.

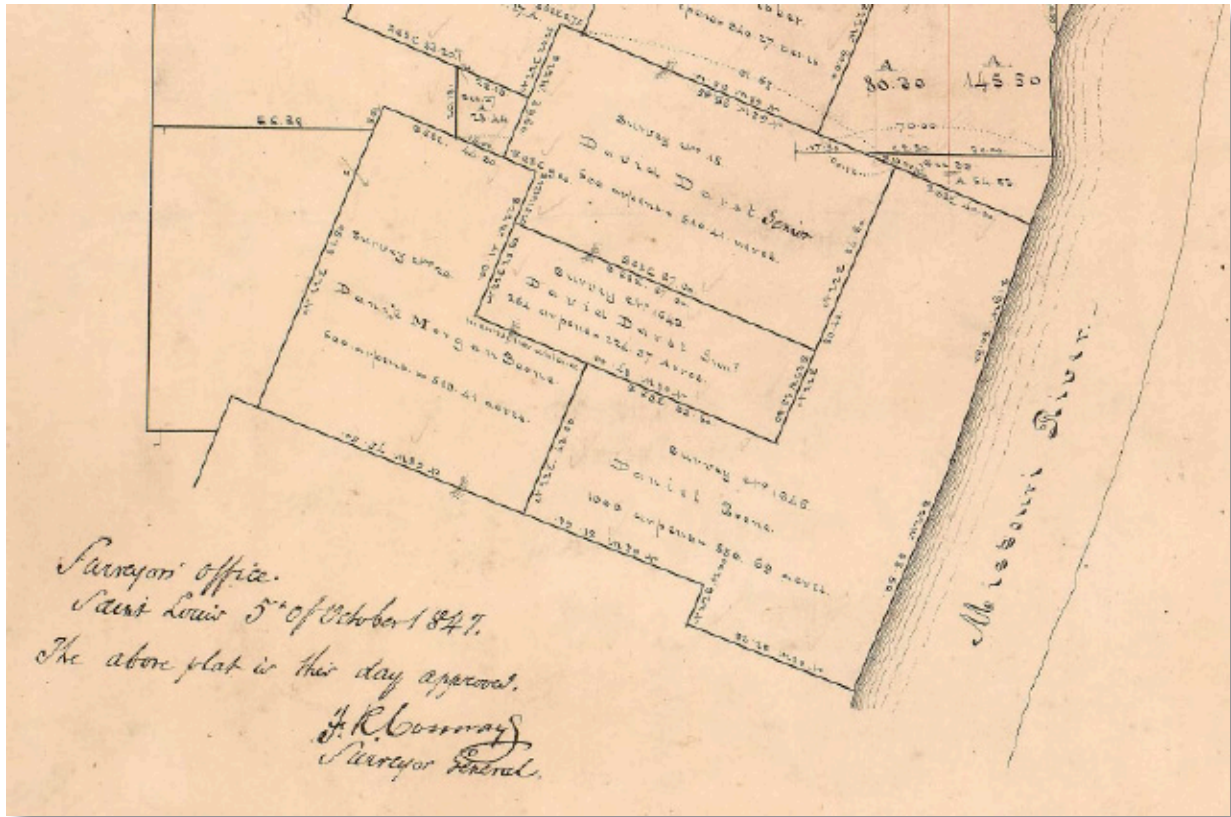
He is the more induced to this request, as the favorite pittance of soil to which he conceived he had acquired a title, under the Spanish Government, has been wrested from him by a construction of the existing laws not in his contemplation, and beyond his foresight. Your petitioner is not disposed to murmur or complain; but conscious of the value and extent of his services, he solicits some evidence of their liberality.

He approaches the august assemblage of his fellow-citizens with a confidence inspired by that spirit which has led him so often to the deep recesses of the wilds of America; and he flatters himself that he with his family will be induced to acknowledge that the United States knows how to appreciate and encourage the efforts of her citizens, in enterprises of magnitude, from which proportionate public good may be derived.

DANIEL BOONE

forwarded the information on December 13, 1813 (*Territorial Papers*, Vol. 14, pg 718). A report from the committee was subsequently submitted to the House of Representatives on December 24, 1813. The committee surmised that since the Act of March 2, 1805, chapter 26, required actual settlement and cultivation for confirmation and that Daniel Boone made no claim to have actually settled and cultivated the land, the Board of Revision must have rejected the claim on that deficiency alone. The claim appeared to be good in all other respects. The committee observed that “*the petitioner is in his old age, and has, in early life, rendered to his country arduous and useful services; and ought not, therefore, to be deprived of this remaining resource by a rigorous execution of a provision of our statute, designed to prevent frauds on the*

Government.” The committee recommended that Daniel Boone be confirmed in his title to one thousand arpents of land in the Femme Osage district granted to him by the Spanish Government (ASP:PL Vol. 2, pg 736).



Partial General Land Office plat, showing the relative situation of tracts confirmed to Daniel Boone, Daniel Morgan Boone, David Darst Senior and David Darst Junior. (Courtesy of the Missouri State Land Survey)

Daniel Boone was ultimately granted relief by the special Act of Congress of February 10, 1814, chapter 10 (U.S. Statutes at Large, Vol. 6, pg 127), which reads as follows:

Be it enacted, &c. That Daniel Boone be, and he is hereby confirmed in his title to one thousand arpens of land, claimed by him by virtue of a concession made to him under the Spanish government, bearing date the twenty-eighth day of January, 1798, and it shall be the duty of the recorder of land titles for the territory of Missouri, to issue to the said Daniel Boone, or to his heirs, a certificate in the same manner, and of the same description, as the said Daniel Boone would have been entitled to receive, if his claim to the said land had been confirmed by the commissioners appointed for the purpose of ascertaining the rights of persons claiming land in the territory of Louisiana, or by the recorder of lands titles for the said territory of Missouri. ■

SOURCES

American State Papers: Public Lands (ASP:PL)

Stoddard, Major Amos, *Sketches, Historical and Descriptive, of Louisiana*, 1812

The Territorial Papers of the United States, compiled by Clarence Edwin Carter, 1948

U. S. Statutes at Large

Nominees for 2020-2021 Officers



President – Earl Graham

Earl is the Director of Surveying for Grimes Consulting, Inc., in South St. Louis County. He was licensed in Missouri in 1988 and over his more than 40-year surveying career has earned licenses in six adjoining states as well as Colorado. Beginning with transit and chain methods, Earl has experienced the implementation of the modern EDM, the Electronic Theodolite, the Data Collector, the

Total Station, GPS, and VRS networks. Today he leads a surveying department that serves dozens of major commercial and industrial clients and leads surveying efforts for developments across the region. Earl's diverse background includes surveys of large sectional tracts for mining and timber in St. Francois, Madison, Iron, St. Genevieve, and Washington counties, as well as urban surveys throughout Northern Jefferson County, St. Louis County, the City of St. Louis and across the Midwest, including a strong background in urban redevelopment. Earl earned an Associate of Science degree from Mineral Area College and currently resides in Park Hills. He has served as the director of MSPS (MARLS) three different times and has been a member since 1985.

President-Elect – Bradley McCloud

Bradley McCloud is the Vice President for the Missouri Society of Professional Surveyors. He is currently working on obtaining his Alabama surveying license and starting his own surveying business. He previously worked for Missouri Department of Conservation where he was responsible for the land boundary and engineering survey programs. Prior to this Brad was the Land Survey Coordinator/Photogrammetry Manager for Missouri Department of Transportation. While in this role he served as the department's expert for photogrammetric compilation and mapping as well as represented the department to state board of registration, surveyors' society, and state land surveyor's office. Also, while in this role he was part of the MODOT VRS network implementation team. During his career he has worked on a vast array of surveys including boundary, highway corridor, photogrammetry, LiDAR, engineering, hydrology, and caves.



Vice President – Ray Riggs

Ray Riggs is a fifth generation resident of Howell County, Missouri and a first generation land surveyor. He attended rural elementary school in Howell County and graduated from the West Plains High School in 1982. Ray has worked within the surveying profession since graduating from high school; as a rodman, instrument man and crew chief. He has been a Project Manager and Project Surveyor with



Riggs & Associates, Inc. since 1989 and beginning in 2018 has served as Survey Vice-President of Florabama Geospatial Solutions. Beginning in 1999 and continuing until 2001, Ray completed the required coursework for licensure as a Professional Land Surveyor in Missouri. These courses were completed by distance learning from the University of Wyoming and the University of Maine. He obtained his Missouri Professional Land Surveyor's license in 2003, his Oklahoma license in 2005 and his Mississippi license in 2011. Ray has been a member of the Missouri Society of Professional Surveyors for many years, has served on committees and has submitted several humorous articles to the Missouri Surveyor. In 2007, Ray was appointed to serve on the Land Survey Advisory Committee and continued until the committee

was dissolved in 2012. In 2019, Ray began serving his local community as a member of the Howell County University of Missouri Extension Council. Ray is an active member of the Junction Hill Pentecostal Church, is an ordained minister within the Ozarks Pentecostal Holiness Fellowship and has been the Youth Leader of this fellowship for almost three decades. Ray has been happily married to Tami for over 30 years and they have a married daughter, Tabitha. Ray enjoys reading, local history research, spending time with family, traveling and writing on his blog, bigsurveyor.blogspot.com. However, Rays most important task is serving as "Pawpaw" to his grandchildren, Lucas and Liam!

Secretary-Treasurer – Bob Anderson

Robert J. Anderson (Bob) is a fourth-generation land surveyor. In 1993, he started his career working summers as a rodman for Anderson Survey, Inc. After high school, he started working full time on a field crew and rose through the ranks to crew chief where he served and honed his skills in surveying under the tutelage of his father, Jim Anderson, for the next 13 years. He then moved inside to do drafting full time. He is now the office manager at Anderson Survey Company, Inc. where he oversees the drafting department, calculates boundaries and makes boundary decisions. He obtained his Professional Land Surveyor license in Missouri in 2010 and Kansas in 2016. He has served on the membership committee for Missouri Society of Professional Surveyors and currently serves on the legislative committee and is a director on the board of Missouri Society of Professional Surveyors and is a past President of the board of the Kansas City Chapter of the Missouri Society of Professional Surveyors.



Secretary-Treasurer – Matthew P. Thomas

Matthew P. Thomas (Matt) is a sixth-generation Missourian and a second-generation Land Surveyor. He's currently the County Surveyor for Boone County, Missouri. Matt has been surveying full time since 1988, obtaining his Professional Registration in 2000. He is the second of two sons in the surveying profession of Price S. Thomas, PLS 847. He first "surveyed"



working for his father at the ripe old age of 10. That first experience convinced him that this is what he wanted to do for a career. He is also a second-generation County Surveyor following in his father's footsteps as a former Cole County Surveyor. He has worked for the City of Columbia, Brush & Associates, Miller Associates, Crockett Engineering Consultants, and A Civil Group. He has also volunteered his professional services traveling to Africa with Engineering Ministries International on three separate occasions, visiting 8 different countries including Sierra Leone, Tanzania, Zambia, Zimbabwe, and South Africa. He has been a member of the Missouri Society of Professional Surveyors for nearly 20 years and is currently a member of the County Surveyors Committee, the CST Committee, the History and Archives Committee, and the Sales and Public Relations Committee. He's also a member of the National Association of County Surveyors and the Missouri Association of County Surveyors. Matt lives in Sturgeon, Missouri with his wife, Theresa, and 3 step daughters, with one step son grown and on his own. He is also an active Mason and spends most of his time, away from work, going to his daughters' volleyball matches, or attending Boone County 4H horse shows.

In his spare time, which he admits is limited, Matt enjoys hunting, fishing, camping, floating, photography, geocaching, genealogy research, and spending time with his family.

Nominees for 2020-2021 Board of Directors

Kirk Baldwin

Kirk Baldwin is a Professional Land Surveyor licensed in Missouri and Kansas. He graduated from the University of Central Missouri in 1991 and began his surveying career shortly after in Forsyth, MO, as a greenhorn rodman and instrument-man. From there, Kirk continued his surveying career in the Kansas City area going from instrumentman to party chief to obtaining his first Professional Land Surveyor license in Missouri in 2001 and then his Kansas license in 2003. Taking a short hiatus from surveying from 2005 to 2005 to work as a conductor and engineer for BNSF Railroad, Kirk returned to the field of land surveying in 2005 as well as being an adjunct instructor at Longview Community College teaching Evidence and Procedures for three years. Kirk has held several positions which include Vice President of Land Survey for Missouri Valley Engineering and Surveying, Inc., Project Land Surveyor for Engineering Solutions, LLC, Survey Manager for Cook, Flatt and Strobel, P.A. Survey Manager and Field Services Division Leader for TranSystems, Survey Project Manager at Westwood Professional Services in charge of mostly railroad services. In 2019, Kirk accepted a position as Kansas City Regional Survey Manager for Anderson Engineering, Inc. As a Survey Manager for Anderson Engineering, Inc. in their Kansas City office, Kirk brings over 28 years of experience to Anderson Engineering as a professional land surveyor. He is skilled on a wide array of services, including highway corridor surveys, railroad right of way surveys, private land boundary surveys, subdivision layout, construction staking, aerial photo control surveys, ALTA/NSPS Land Title Surveys, and topographic surveys. Kirk's daily focus is on survey department management, project management, research, proposals, field survey operations, CADD drafting, land boundary determinations, field support, and mentoring and training.



Stephen Dickson

Stephen Dickson is the current Survey Superintendent for the Missouri Department of Conservation. He oversees all land boundary and engineering survey projects for the agencies 1.2 million acres of owned and leased ground. It was a high school vo-tech teacher who was responsible for introducing Stephen to surveying. It was then, he knew surveying was going to be the career for

him. Stephen has over 30 years' experience in the surveying and mapping profession. His career began in 1988 employed in the private sector as a chainman eventually working his way to Party Chief. From this point, he followed his career into public service with the Missouri Department of Transportation. Stephen's diverse background in surveying would include; the honor of a being on a team that first discovered, then had the privilege of surveying and of naming a cave, boundary surveys, highway corridor, sub-division layout, construction staking, LiDAR, hydraulic and bathymetric surveys. Stephen is committed to continual advancements in the field and sharing knowledge with the up and coming survey professional. Stephen and his wife reside in the Jefferson City area, in his free time he can be found working in the yard, tinkering on old vehicles and spending time with his grandchildren.

Chris Ferguson

Chris is the Boundary and Title Program Manager for the Mark Twain National Forest, headquartered in Rolla, covering 1.5 million acres and comprised of over 7200 miles of boundary line in 29 Southern Missouri counties. He was previously a Forest Surveyor and Zone Surveyor for the Agency over the last dozen years.



Prior to that, Chris began his surveying career enlisting in the U.S. Marine Corps, serving over 23 years in active and reserve status before retiring as the senior Artillery Survey Officer in the 4th Marine Division. Meanwhile, Chris worked his way up from rodman to survey coordinator while at various St. Louis area firms. Eventually, he branched out to run his own company for over a decade highlighted by several notable projects such as Busch Stadium and the Gateway Arch.

Along with Missouri, Chris holds surveyor licensure in several other Midwestern states and is also a Certified Federal Surveyor (CFedS) and a Certified Floodplain Manager (CFM®).

He is also very proud of being an active member of MSPS, having been the St. Louis Chapter President (2004) and serving on or being chairman of several committees over the last 20+ years.

Although looking forward to retirement in a few years to finally spend more time with his lovely wife Beth and their grown kids - and now grandkids (along with uninterrupted hunting, fishing and golfing), Chris is ready to give back to the profession that has given him so much opportunity and welcomes the chance to serve as your Director.



Scott Faenger

Scott Faenger is a Professional Land Surveyor for the Missouri Department of Agriculture's Land Survey Program, Cadastral Section. Scott was introduced to the profession in the early 90's when he answered a laborer want ad in Houston, Texas and spent that summer locating pipeline for a surveying/engineering firm. He went on to become a party chief with that same company.

He continued to gain experience through his work for land surveying firms in Arkansas and Missouri and has been with the Missouri Land Survey Program for 17 years. Scott started with the Land Survey Program in 2003 as an Instrument Man with the State Parks Survey Crew. In 2005, Scott transferred into the Cadastral Section and has been a part of numerous township wide, county line and state line projects that involve restoring or reestablishing corners of the United States Public Land Survey System. He received his Professional Land Surveyor License in 2015 and is currently a Project Surveyor in the Cadastral Section of the Land Survey Program. Scott is a member of the Missouri Society of Professional Surveyors and serves on the History Committee and the Public Relations/Sales Committee. He currently resides in Rolla with his wife, Patty.

Video for Missouri Surveyors – When CBS News Visited the Initial Point

by Donald Martin

The nation in turmoil. Individuals and institutions under assault. Tempers figuratively burning as cities are literally burning. Problems are seemingly beyond solutions. All the while, discontent, disruption and dissatisfaction are not so much reported by the broadcast media, they are endorsed, embraced and encouraged by the fourth estate. The televising fourth estate. Sounds like the state of this summer, 2020? Could be. It sure sounds like it.

But once upon a when, it was the condition of things in an era which was the awkward adolescence of our contemporary culture wars. Back then, broadcast media was going through its own awkward adolescence. Going through; not growing through, not maturing through. Just, going through. Having shed itself of bygone notions of fairness, thorough investigation and searching for truth, broadcast journalism (it had to have its own name to separate it from real journalism) eschewed professionalism for popularity. Popularity measured in ratings. Ratings driven by demographics which did not recognize the American everyman and everywoman. They truly were a silent majority. Ah, it was the 1960's.

Of course, the forces distorting broadcast journalism were in many ways particular to their medium. These weren't the professorial writers of old with their *faces for radio* and their *voices for print*. Those folks were too slow, too methodical, too focused on proving facts to be... facts! Those people scribbled on note pads, read their own research, and two-finger pecked at loud, old Underwoods. And their news was printed. But to deliver the news quickly and pleasingly to those staring at their glass faces every evening at 5:30 required new ways and new people. Speaking their non-regionalized English while wearing matte hues of foundation and powder, they soft-stroked their IBM Model C's and read the news. The journalist was the reader, and the reader was a watcher. And they had to be fast, had to be first.

Well, during that time, the Columbia Broadcasting System (that just sounds elite) hired a young fellow who was tired of *it*. Didn't like *it*. Didn't work well with the other broadcast journalists. He had been a small city, print journalist. He even had that quaint treasure of all old-timers, a weekly column. He sounded funny. Being from North Carolina, he still carried a hint of it in his voice. And he didn't look too good on the TV. He didn't look too good anywhere. Pudgy, balding, looking choked in a necktie squeezing up his heavy jowls. "I didn't like the competitiveness or the deadline pressure." He was Charles Kuralt.



Charles Kuralt (center) with his crew and the On the Road motorhome.

Another thing he didn't like was the "gotcha" journalism which came to rule the airwaves. He understood it required reporters to view all subjects (people) as suspects. He knew that institutions are made by and made of people and the zeal to bring down institutions was fundamentally a quest to bring down people. Even good people. As CBS commentator Steve Hartman put it, "Kuralt was a different kind of journalist. He didn't investigate people. He simply admired them." So, he pitched an idea. An idea to sort of recreate his old weekly column in North Carolina, but now to be filmed and broadcast. Not seeking out or tracking down news, he would simply travel and then tell the stories of his journeys and those met along the way. Instead of

going on air every evening and telling viewers what they needed to know, he would roam the countryside and listen to people. He let them tell their tales.

During the summer of 1967, the managers of CBS News finally had enough and said “okay!” They gave him three months. His feature, called *On the Road* was broadcast for three decades.

With a two-man crew, they set off in a motorhome – and would wear out six of them before they were done. Forgoing the easy yet bland travel of interstate highways he went by way of the two-lanes, the farm-to-markets, the main streets, He found Americans. Good Americans. Most Americans are! It was a hit. As his cameraman Izzy Blekman recalled, “What I heard was that the telephones lit up pretty hard after that night when the first one was on,” he added. “People said, ‘It’s about time we saw a little something else about America.’”

During the second season of *On the Road*, Kuralt and crew motored through the low, flat, delta of eastern Arkansas on Highway 49. At what was an intersection of a line extending north from the mouth of the White River with a line extending west from the mouth of the St. Francis River, they paid a visit to the Louisiana Purchase Historic State Park. You can watch the video he produced on YouTube in the channel of user **renshaw8**. Its transcript follows:

On the Road With Charles Kuralt – Louisiana Purchase. Season 2, episode 9.

“This is a story about Napoleon, and Jefferson, and Talleyrand, and intrigue in Paris, and an empire changing hands. And this is the best place to tell the story. A swamp in Arkansas. By the time we get down to the end of this rickety, wooden bridge into the swamp, you’ll see what I mean.

“The year was eighteen-three. This swamp, all of Arkansas, in fact the whole central part of what is now the United States was French! The French called it all – Louisiana. President Thomas Jefferson wanted one tiny part of that vast French Empire. All he wanted for the United States was the city of New Orleans. Jefferson sent James Monroe as Ambassador to Paris to join Ambassador Robert Livingston, there to negotiate with Napoleon’s Foreign Minister Talleyrand to buy New Orleans. They were authorized to pay as much as seven-and-a half



Kuralt walking down the “...rickety, wooden bridge into the swamp...”

million dollars. What Monroe and Livingston didn’t know was Napoleon was plotting to make himself Emperor of France and to go to war with England.

“He knew he didn’t have the sea power to defend his vast possessions in the New World. And he knew that therefore England would probably just take them in the war to come. Bonaparte reasoned, “Why not get rid of all that land in advance? Why not sell it to the United States?”

“So, a long way from this swamp, in a Parisian drawing room, Livingston (who had been getting nowhere with Talleyrand, trying to buy New Orleans), was flabbergasted to hear the Foreign Minister say, “What if we sold you more than New Orleans? What would you give for the whole of Louisiana?” By which he meant, the whole of America between the Mississippi River and the Rockies. The very next day, they agreed on a little land sale.

“Livingston didn’t even know what he was buying. Lewis and Clarke hadn’t yet been west to see what was there. But, they signed the papers before Napoleon could change his mind. Twelve million dollars for a third of a continent. The United States was suddenly doubled in size. This swamp was suddenly, American.

(continued on next page)

Video for Missouri Surveyors – When CBS News Visited the Initial Point *(continued)*

“Well, if you own something you have to survey it. To survey something you have to start somewhere. Because a meridian and baseline crossed in this swamp, this is where they started. [Kuralt then looks onto the commemorative monument of the initial point of the Fifth Principal Meridian] The inscription says, “This stone marks the base established November 10, 1815, from which the lands of the Louisiana Purchase were surveyed by United States engineers.”

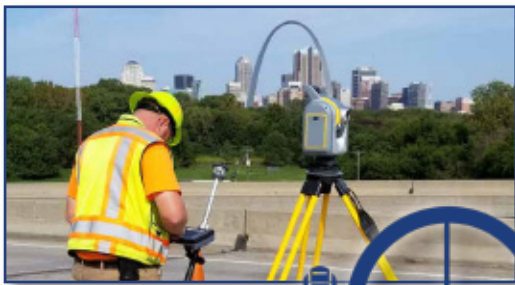
“If you live today in Arkansas, Missouri, Iowa, Minnesota – your township boundaries, your section lines, the boundaries of your lot are based on this stone, in the middle of a cypress swamp, in Arkansas.

“This stone is a symbol of the American urge, the strongest urge in our history, to cross the rivers and head west. It is a symbol of the American itch to own a piece of land... to have it and to hold it. Enough for a flower garden. Or enough for a cattle ranch.

“The Louisiana Purchase gave us this swamp. Gave us all of Arkansas. Gave us Louisiana, Missouri, Iowa, Minnesota, North and South Dakota, Nebraska, Kansas, Oklahoma, part of Texas, most of Montana, Wyoming, Colorado and New Mexico. For about two cents an acre. There were some in the Senate who said it was too much! But you’ll notice that the French, who thought they were getting a good deal at the time, hardly ever talk about it anymore.” 🇺🇸



Charles Kuralt, reading the inscription, circa 1969-1970, Louisiana Purchase Historic State Park, Arkansas.



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NGS News & Events

NGS Announces Plans for the Modernized NSRS II

Friday August 7, 2020

NGS has issued two Federal Register Notices (FRNs) concerning the National Spatial Reference System (NSRS), the nation’s geodetic coordinate system. The first notice announces **upcoming changes to the NSRS**, which is being modernized. Initial rollout of the modernized system is expected between 2022 and 2025. As part of the modernization process, NGS is considering imposing a time limit on the coordinate observations that comprise the NSRS, but would like to conduct well-structured, data-driven experiments before imposing this limit. Therefore, NGS has issued a second FRN that requests users take **new Global Navigation Satellite System observations** on geodetic control marks of interest, especially those marks that have not been surveyed since January 1, 2010, and share them with NGS before December 31, 2021.



<https://www.federalregister.gov/documents/2020/07/24/2020-16068/upcoming-changes-to-the-national-spatial-reference-system-nrsr>

NGS Announces Plans for the Modernized NSRS I

Friday July 31, 2020

Using astronomical data, NGS is taking its first deflection of the vertical (DoV) measurements in 30 years. The DoV of a point on Earth is a measure of how far the direction of gravity has shifted because of local anomalies, such as nearby mountains. NGS’s **Geosciences Research Division** is developing an autonomous system that captures video of selected stars to measure their precise angle above the horizon and estimate the DoV. Measuring DoV helps NGS model surface elevations and orient local coordinates to the global geospatial framework. This is another way to verify and maintain NGS’s geometric and geopotential reference points. Accurate DoV measurements will also support precise geodetic infrastructure by orienting local surveys to a global geometric reference system.

NGS Participates in Joint Meeting of Geospatial Working Groups

Friday July 24, 2020

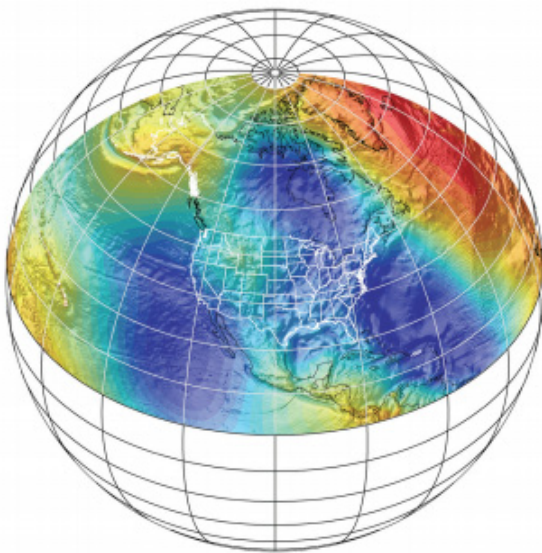
NGS Director Juliana Blackwell and Chief Geodesist Dan Roman participated in a joint meeting of the **Pan-American Institute of Geography and History (PAIGH)** and the **United Nations Global Geospatial Information Management (UN GGIM) U.S. Delegation**. Both groups provided highlights of their activities and discussed areas of overlap that could be the focus of future efforts. Global cooperation and partnership on standards and geodetic infrastructure are key to improving commerce, navigation, interoperability, and access to information around the world. PAIGH and UN GGIM representatives both called attention to the leadership provided by NGS in integrating U.S. geospatial data into broader global efforts.



Update to the National Spatial Reference Timeline

Friday June 26, 2020

NGS is announcing a **delay in the release of the modernized National Spatial Reference System (NSRS)**, the nation's geographic coordinate system. NGS is dedicated to rolling out the modernized NSRS in the most effective and efficient process possible, thereby encouraging early and widespread adoption of the new system. Since 2017, operational, workforce, and other issues have arisen, causing NGS to re-evaluate whether a successful rollout of the modernized NSRS by the original time frame of 2022 is still possible. In order to determine the length of delay, NGS is currently conducting a comprehensive analysis of all ongoing projects, programs, and resources required to complete NSRS modernization.



The new datums will extend across CONUS and U.S. territories. The geometric datum replacing NAD 83 will be consistent with geocentric global reference frames defining latitude and longitude. The geopotential datum replacing NAVD 88 will be based on a gravimetric geoid model, enhanced by data from NGS' Gravity for the Redefinition of the American Vertical Datum (GRAV-D) Project.

(continued on next page)

NGS News & Events *(continued)*

NOAA and NASA Begin Sea Level Rise Project

Friday June 12, 2020

NGS Chief Geodesist Dan Roman participated in a kick-off meeting for a joint NASA-NOAA project to separate vertical land motion (VLM) from apparent sea level rise (SLR) along shorelines. NGS's expertise on VLM will improve understanding of relative SLR - in other words, how the sea level is changing in relation to vertical motion on land. This project group will meet weekly for the next 2 to 3 years with the goal of enhancing the [NOAA Sea Level Rise Viewer](#) and providing improved information for coastal and emergency planners.

NGS Featured in Article on Modernizing Nation's Positioning System

Friday June 5, 2020



To explain the value of the NGS effort to modernize the nation's coordinate system to the public, NGS Director Juliana Blackwell, NGS chief geodesist Dan Roman, and a former NGS director were interviewed by the New York Times. The article (<https://www.nytimes.com/2020/05/22/science/maps-elevation-geodetic-survey.html>) breaks down how recalibrating the position of the United States on the Earth's surface and taking into account the effects of gravity on heights will not only be of significant benefit to surveyors, engineers, construction workers, and everyone who uses GPS, but will usher in a new era of scientific breakthroughs and innovations in fields like early warning systems for natural hazards, autonomous vehicle navigation, precision agriculture, and coastal wetland monitoring.

NGS Releases Interactive Display of Survey Mark Information Page

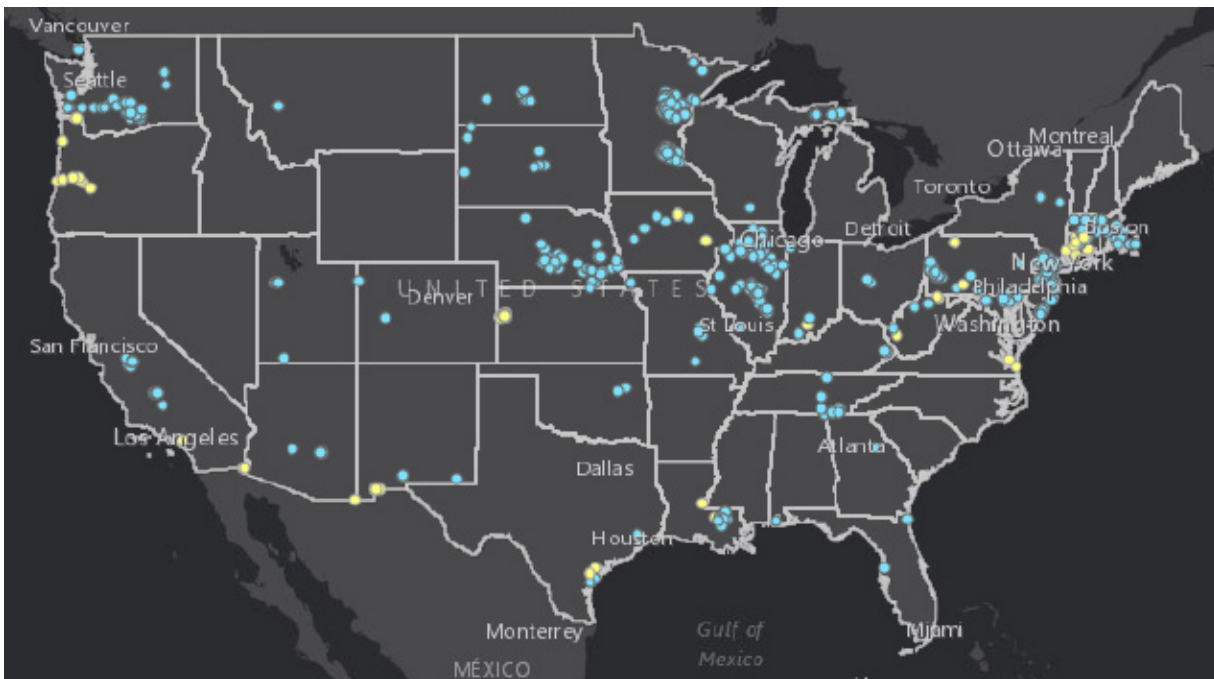
Friday May 29, 2020

As part of the effort to modernize the nation's coordinate system, the National Spatial Reference System, NGS has released an interactive, beta version of its survey mark information page. Information about the locations and conditions of passive survey marks has historically been displayed online or in print as static NGS datasheets. The new mobile- and web-friendly **BETA Mark Information Page** color codes the GPS data for each survey mark based on the quality of the data, adds photographs of the mark and a map of its location, and includes descriptions and links to more information. NGS is currently seeking feedback on the usefulness of the page features and the ways users would like to interact with NGS datasheet information in the future.

New Maps, Dashboards Introduced for Crowdsourced GPS Data

Friday May 22, 2020

NGS has released new maps and dashboards for exploring crowdsourced data in the National Spatial Reference System (NSRS), the nation's coordinate system. Through the NGS Online Positioning User Service (OPUS), people can upload survey-grade GPS data. The **OPUS Share Monthly Map** and the **OPUS Shared Solutions Dashboard** lets users explore these data interactively. The **GPS on Bench Marks for the Transformation Tool Dashboard** tracks the campaign to improve the NSRS via crowdsourced data. The **GEOID18 Web Map** allows users to explore the crowdsourced GPS on Bench Mark observations used to create GEOID18, NGS's latest hybrid geoid model. The new tools allow users of the NGS crowdsourced data systems to improve their efforts by providing visual maps of where the crowdsourced data has been collected and when or how often the campaigns were conducted.



OPUS Share Monthly Map

Surveying & Surveyors in the News! *(continued)*

9 Jobs Best Suited for Those with Anxiety

Free Malaysia Today (freemalaysiatoday.com), August 14, 2020

Look, we don't write these, we only report them! Besides, this is well-intentioned.

Author You Jing Ng prefaced this piece with, "For those with anxiety, finding the right job can be tough. It is best to focus on roles that reduce exposure to triggers, which will help limit work anxiety while increasing the odds of finding a job that fits.

"The careers recommended below will keep the individual interested, preoccupied and stimulated, and may serve as "good" stress in one's career."



Finding a job that reduces exposure to triggers is important for those with anxiety. (Rawpixel pic)

1. Land Surveyor

A great job for people who enjoy the outdoors, land surveyors mostly work in groups or pairs, calculating the amount of materials needed for building works and how much they will cost.

With a Bachelor's degree or on-the-job training, this could be a great career path without major concerns. 🇺🇸



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Announcement

In memory of Dennis Amsinger, Missouri PLS # 2077



Dennis Donald Amsinger, loving husband and father passed away on Sunday, June 7, 2020, after a brief battle with cancer. He was 64.

Dennis was born on January 28, 1956, in St. Louis, Missouri, to parents Richard and Shirley Amsinger. He helped out at his family's resort business which led to his love of boating and lake life. He was known for his beautiful smile along with his kind and compassionate spirit.

Dennis was a registered Land Surveyor for forty-four years, Webster County Surveyor for thirty-two years, and owned his own business, Amsinger Surveying, for twenty-two years. He was a long time member and a respected officer of the Missouri Association of Professional County Surveyors (M.A.P.C.S) and a highly valued friend to the members who knew him. Dennis contributed to the advancement of the surveying industry. His efforts not only benefit the county in which he served but also help support his fellow county surveyors throughout Missouri.

Dennis is survived by his wife Jana Amsinger; two children and their spouses, Nathan and Angie Amsinger and Sarah and Clint Clayton; six grandchildren Auston, Kolton, Kalli, Trystan, Adalyn, and Tuff. Beloved siblings, nieces, and nephews. Dennis was a dedicated father and papa first and foremost. He treasured every moment playing and laughing with them. He will be greatly missed by family and friends.

People wishing to honor Dennis's lifelong commitment to family, friends, and community can make donations to FBO Watoto BOBI Project in honor of Dennis Amsinger at any Multipli Credit Union or mail to Multipli Credit Union, 818 N. Benton, Springfield, Mo 65802. Dennis loved and supported Watoto BOBI Projects to help with development in Uganda. The Watoto children were near.

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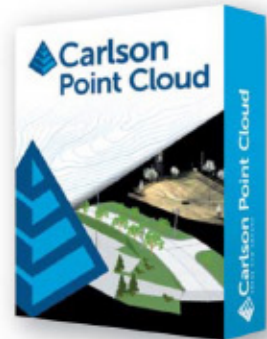
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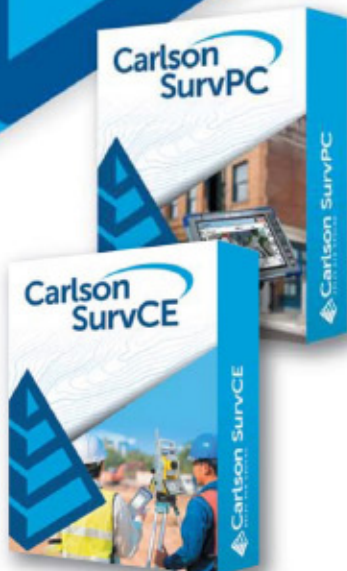
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NEWS & VIEWS

National Society of Professional Surveyors

2020 Trig-Star Scholarship Winner Announced

NSPS, August 13, 2020



Congratulations to Joel Edwards for being selected to receive the \$5000 Trig-Star scholarship. Having already earned his Associates Degree, Joel is currently enrolled in the surveying program at Vincennes University. Joel says, “Growing up on a farm, I have always had a basic understanding and interest in land and property rights. In my sophomore year of high school, a local Surveyor came into our school to host the Trig-Star competition, and to give a presentation describing what surveying is all about. That experience led me to do more and more research on surveying, and I came to the conclusion that it best fit my skills and experience.”

FLOODS Act introduced in U.S. Senate

NSPS, August 13, 2020

Senator Roger Wicker (R-MS), chairman of the Senate Committee on Commerce, Science, and Transportation and Senator Gary Peters (D-MI) have introduced S. 4462, the Flood Level Observation, Operations, and Decision Support (FLOODS) Act, a bill to establish a National Integrated Flood Information System, primarily in the National Oceanic and Atmospheric Administration (NOAA). The bill would improve NOAA’s forecasting and communication of flood, tornado, and hurricane events. It would encourage NOAA to use aerial surveys of floodwaters to improve flood mapping, improve modeling of freshwater outflow into the ocean, and establish a committee to ensure coordination of Federal departments with joint or overlapping responsibilities in water management. The bill also highlights the importance of topographic data collection by the private sector (Section 3), helps advance geospatial data standards and coordination (Section 4), and authorizes \$3.5 Million per year from FY2021-FY2030 (Section 12).

OSTP Seeks Comments on PNT Plan

NSPS, August 13, 2020

The Office of Science and Technology Policy (OSTP), and agency in the Executive Office of the President, is requesting input on the development of a National Research and Development Plan for Positioning, Navigation, and Timing (PNT) Resilience. The plan will focus on the research and development (R&D) and pilot testing needed to develop additional PNT systems and services that are resilient to interference and manipulation and that are not dependent upon global navigation satellite systems (GNSS). The plan will also include approaches to integrate and use multiple PNT services for enhancing resilience. The deadline for input and feedback is September 9.

Senate Passes 3DEP Authorization Bill

NSPS, August 6, 2020

The U.S. Senate last week passed S. 529, the National Landslide Preparedness Act, sponsored by Sen. Maria Cantwell (D-WA). The legislation would direct the Secretary of the Interior to establish a program to identify risks and hazards from landslides, reduce losses, protect communities at risk, and improve communication and emergency preparedness. The bills would require the program to map and assess landslide hazards; respond to landslide events; coordinate with non-federal entities to identify regional and local priorities; and develop and implement landslide hazard guidelines for geologists, engineers, emergency managers, and land-use decision makers. The House passed H.R. 1261 by unanimous consent in June 2019, and the Senate passed S. 529 by unanimous consent on July 30, 2020. Congress must reconcile differences in the bills to help enact the legislation. Section 4 authorizes subsidence mapping and Section 5 authorizes 3DEP. NSPS continues to advocate on behalf of USGS 3DEP and strongly supports this bill.

NIST and NGS Delay Final Determination on U.S. Survey Foot

NSPS, July 30, 2020

The National Institute of Standards and Technology (NIST) and the National Geodetic Survey (NGS) have announced a 90-day extension on the final determination of the decision to deprecate the US Survey Foot. The additional time is necessary to address public comments on the deprecation. A Federal Register notice on 10/17/2019 announced the intent to deprecate the Survey Foot. The notice stated that NIST and NGS would co-issue a Federal Register notice by June 30, 2020, announcing adoption of the “foot” equal to 0.3048 meter (exactly) as the “official definition for all applications in the U.S. after December 31, 2022.” However, a Federal Register notice published on 07/10/2020 announced “a 90-day extension of the review and analysis period to address public comments. The final determination will be published by September 28, 2020.” Public comments for the 10/17/2019 notice can be found here. NGS has also announced a delay in the implementation of the modernized National Spatial Reference System originally slated for roll-out in 2022.



FEDERAL REGISTER
The Daily Journal of the United States Government



Notice

Deprecation of the United States (U.S.) Survey Foot

A Notice by the National Institute of Standards and Technology on 07/10/2020

<https://www.federalregister.gov/documents/2020/07/10/2020-14882/deprecation-of-the-united-states-us-survey-foot>

NCEES Distinguished Service Award

NSPS, July 22, 2020

Thomas Orisich, P.L.S., of Cockeysville, Maryland, has been awarded the NCEES Distinguished Service Award for his dedicated service to NCEES and the surveying profession. Orisich was recognized during the organization’s annual meeting business webinar held on July 1, 2020. He will be honored in person at the organization’s 2021 annual meeting in New Orleans.

(continued on next page)

NSPS News & Views *(continued)*

NSPS to Update Its 'Definitions' Book

NSPS, July 22, 2020

First published in 1978, the ACSM classic reference book "Definitions of Surveying and Associated Terms," was updated in 2005 and has a series of reprints. The book is in urgent need to be updated with surveying, engineering, photogrammetric, geomatics, cartography, and new technology terminology coined during the last 15 years.

The National Society of Professional Surveyors (NSPS) is looking for surveying and geomatics departments or interested individuals/companies to carry out the compilation of a new, updated "Definitions" book.

Definitions of Surveying and Associated Terms Request for Proposals

First published in 1978, the ACSM classic reference book *Definitions of Surveying and Associated Terms*, was updated in 2005 and has a series of reprints. The book is in urgent need to be updated with surveying, engineering, photogrammetry, geomatics, cartography, and new technology terminology coined during the last 15 years.

The National Society of Professional Surveyors (NSPS) is looking for surveying and geomatics departments or interested individuals/companies to carry out the compilation of a new, updated *Definitions* book. The work is expected to include the following:

- Review of the most recently revised *Definitions* book (digital version available)
- Review of a newer, broader reference, the *Glossary of the Mapping*
- Compilation of a new *Definitions* manuscript combining valid terms from both publications
- Validation of selected terms and technical editing of the material by faculty (where students do the initial compilation) or companies
- Review of a draft manuscript by NSPS
- Incorporation of amendments, comments, etc. into the final draft
- Submission of the final manuscript to NSPS in digital format, by the deadline agreed upon.

NSPS invites interested parties to submit proposals for the implementation of the project. The proposal should include the following:

- Qualifications to carry out the research (interest in terminology research a plus)
- Proposed duration of the project
- Implementation procedure
- Tools and indexing capability
- Estimated costs of researching new terminology, compiling it, and incorporating it into the digital file of the currently used *Definitions* book.

NSPS will enter into a formal contract with the selected provider specifying the time period within which a final draft must be submitted, as well as the amount of funds that will be awarded for the research. The schedule of award disbursement of the agreed upon fee will be: one third at the beginning of the project; one third at submission of the draft manuscript for technical review; and one third at the time the final draft manuscript is submitted to NSPS for language editing and design.

After the compilation of the new document, it will be reviewed by an expert or a panel of experts to ensure that the terminology included in the updated *Definitions* book reflects the current state-of-the-art in the field. Candidates for the expert review may follow the same guidelines for preparing their proposals as specified above for the compilation part of the project.

Congress Moves Against FCC's Ligado Decision

NSPS, July 15, 2020

Congress has begun taking steps to over-ride or mitigate the Federal Communications Commission's (FCC) recent approval of a long-standing request by Ligado Networks (formerly LightSquared) for a controversial satellite based broadband system that critics say will use spectrum near that used by the Global Positioning System (GPS). According to analyses by the departments of Defense and Transportation, and others, the Ligado system will interfere with GPS reception for many users. Congress is moving beyond talk and initiating legislative provisions. These would require an independent technical review of the FCC's decision and place limits on the ability of Ligado Networks to use the license it was granted. A primary vehicle for congressional action looks to be the National Defense Authorization Act (NDAA) for 2021.

The member of Congress that has been the most outspoken critic of the FCC's decision is Senator Jim Inhofe (R-OK), chairman of the Senate Armed Services Committee that has direct responsibility for writing the NDAA. The Senate version of the NDAA for fiscal year 2021 has several provisions that directly address the FCC's decision. Senator Inhofe has also announced he will introduce stand-alone legislation when Congress returns from summer recess. His "Recognizing and Ensuring Taxpayer Access to Infrastructure Necessary for GPS and Satellite Communications Act," or "RETAIN GPS and Satellite Communications Act," a NSPS-supported bill that would require Ligado to modify or replace any receiver, including those used by private citizens, that would be impacted by Ligado's operations.



Senate Armed Services Committee leaders Jim Inhofe and Jack Reed will introduce legislation holding Ligado responsible for any interference its fifth-generation wireless network may cause to GPS signals. Drew Angerer/Getty Images

This modification would be required before the FCC's order allowing them to transmit could come into force. Most observers opine that the number of impacted civil receivers in the U.S. is so great that this would effectively deny Ligado use of the frequency. Introduction of the RETAIN GPS and Satellite Communications Act is expected before the summer recess.

(continued on next page)

NSPS News & Views (continued)

Senate Commerce Committee Files Report on Digital Coast Act

NSPS, July 9, 2020

The Senate Commerce Committee recently filed its formal, written report to accompany the Digital Coast Act, S. 1069. NSPS has learned that the bill was “hotlined” for approval by the full Senate, however, an objection was placed on the bill. NSPS government affairs consultants John M. Palatiello & Associates, Inc., including its registered lobbyist, John “JB” Byrd, are working to learn more about the objection and work with the Senate to pass this bill. Objections to “hotlined” bills, those ordinarily thought to be noncontroversial, are not publicly disclosed. NSPS strongly supports the bill, while leading a coalition of supporting stakeholder groups. A companion bill has passed the U.S. House of Representatives.

Occupational Licensing Reform Advances in Several States

NSPS, July 9, 2020

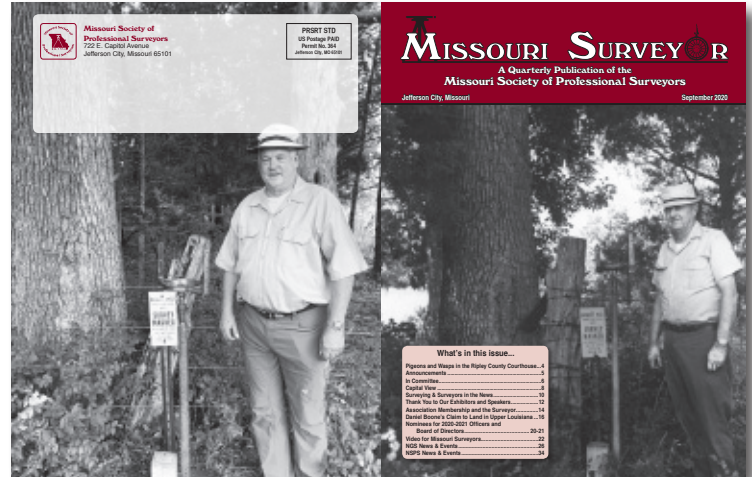
Several state legislatures have recently passed various forms of occupational licensing reform, some of which can impact surveying. In Mississippi, Governor Tate Reeves (R) signed into law SB 2117, to make it easier for military members or their spouses to earn occupational licenses and another that gives the Occupational Licensing Review Commission the ability to do backward-looking examination of existing regulations. HB 1104 will provide the OLRC the ability to scrutinize an existing regulation to determine whether it increases economic opportunities for citizens by promoting competition while using the least restrictive regulation to protect consumers. Any regulation that doesn’t meet that criteria will become invalid 60 days after it was reviewed. Iowa Governor Kim Reynolds (R) signed into law H.F. 2627, that makes it easier for plumbers, electricians and others who’ve worked in professional occupations in other states get a license to work in Iowa. The bill lets Iowa licensing agencies accept work experience as a substitute for education. In addition, Florida Governor Ron DeSantis (R) signed a bill, HB 1193, easing regulations of licensed practitioners of a wide swath of occupations ranging from body wrapping to boxing announcing. Auctioneers, barbers, electrical contractors, and geologists will have fewer education requirements, with nutritionists, interior designers, landscape architects, nutritionists, accountants, alarm system installers and boxing announcers seeing some licensing requirements eliminated completely. The National Conference on State Legislatures (NCSL) maintains an online database of occupational licensing legislation in the states.

NSPS Issues Diversity Statement

NSPS, July 2, 2020

We stand with the rest of the Country to express our deep concern with the state of affairs throughout our Nation. It is the hope of the leadership of the National Society of Professional Surveyors that we, as a Nation, can come together to resolve injustices and inequalities, increase diversity and head on a path of healing and equal opportunity and treatment for all. NSPS recognizes the importance and value of all forms of diversity in our profession and has formed a Diversity Committee to assure that we are inclusive and welcoming to all. 🇺🇸

On the Cover: This corner was set in May, 1816 by the famous GLO Deputy Surveyor Joseph C. Brown when he surveyed the Standard Line between T39N and T40N west from the 5th Principal Meridian. (Mr. Brown had surveyed the Base Line in 1815 and would go on to survey the Osage Treaty Line (late 1816), the west and south lines of Missouri (1823) and the Santa Fe Trail (1825).) It is the Standard Township Corner between R6W and R7W. Mr. Brown set a post and marked a 12” Post Oak, North 30 degrees West, 7 links. It became (and still is) the southwest corner of Gasconade County. Perpetuated over the years, in the front cover 1975 photo, Phelps County Surveyor Bob Elgin is measuring the bearing to Brown’s standing Post Oak, then 31 inches. He “set a standard SLSA concrete monument with brass cap.” In the photo my father is using a Gurley compass on a Jacob Staff to take the bearing, the variation no doubt set in the vernier.



As shown on the **back cover** (taken 8/8/20), former Phelps County Surveyor Dick Elgin stands at the same corner. The monument looks much the same today. The Post Oak is now 35 inches. I’m sure you are wondering what is the lap to the Closing Township Corner to R6W and R7W. The answer is 42.70 chains east. This is a relatively large lap, due to several factors, one being that T39N (the north line of Phelps County) is one of those extremely long closing townships, being over 8 miles in length in some locations. This is due to poor measurements on the 5th PM. The GLO Post Oak’s growth rate has been only a tenth of an inch (2.5 mm) per year.



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